REMARKS/ARGUMENTS

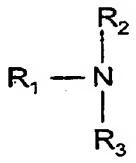
The Office Action mailed June 27, 2007 has been carefully considered together with each of the references cited therein. The amendments and remarks presented herein are believed to be fully responsive to the Office Action. Accordingly, reconsideration of the present Application in view of the following remarks is respectfully requested.

Applicant has amended the Application to attend to housekeeping matters and to more clearly describe the invention. Claim 8 was amended to more clearly recite what Applicant believes to be the invention. In claim 8, the term "then reacting" was amended to --further reacting-, and the term "to provide said quaternary ammonium composition" was added at the end of the claim to more clearly emphasis the recitation of the 2 reaction steps previously recited in claim 8. Support for the amendments to claim 8 may be found in Applicant's Specification, particularly in examples 1-3 on pages 6-10 and in original claim 8. It is not believed that any new matter was introduced by this amendment, and that no additional search is required by the office.

Claim 8 was rejected under 35 USC §112, second paragraph for not setting forth any steps involved in the method/process. Applicant respectfully points out that claim 8 as amended clearly recites the following two reaction steps:

"said process comprising:

reacting an amine of the formula



wherein R_1 is C_8-C_{22}-alkyl, C_8-C_{22}-alkenyl, C_8-C_{22}-alkylamidopropyl, C_8-C_{22}-alkenyl-amidopropyl, C_8-C_{22}-alkyl/alkenyl(poly)alkoxyalkyl, C_8-C_{22}-alkanoylethyl or C_8-C_{22}-alkenoylethyl, R_2 and R_3 are C_1-C_{22}-alkyl, C_2-C_{22}-alkenyl or a group of the formula -A-$(OA)_n$-OH, wherein A is -C_2H_4- or -C_3H_6-, or a mixture thereof, and n is a number from 0 to 20 with an inorganic monohalo acid, and

[[then]] **further reacting** the ammonium salt thus obtained with ethylene oxide or propylene oxide or a mixture thereof to provide said quaternary ammonium composition." Therefore, any rejection of claim 8, as amended, under 35 U.S.C. §112, second paragraph for not setting forth any steps involved in the method/process is improper and should be withdrawn. Furthermore, any rejection of claim 8 under 35 U.S.C. §101, for not setting forth any steps involved in the method/process, is improper and should be withdrawn.

Claims 1-7 were rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (US 5,414,124). The rejection of claim 1 as amended under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (US 5,414,124) should be withdrawn for the reason that Smith et al. teaches away from the instant invention, and Smith et al. is at best silent on any non-ionic solvents claimed in the instant invention and Smith does not disclose component a) of the instant invention. Furthermore, no one skilled in the art would be motivated by the disclosure of Smith et al. to select any of Applicant's solvents based on the limited disclosure of Smith et al. which are ethylene glycols and propylene glycols having an a two or three carbon alkylene unit which always has two hydroxyl groups, and not the alcohols or polyglycols as recited in Applicant's claim 1. In Smith at column 3 in the paragraph beginning at line 65, Smith states that "Surprisingly, the same quaternary ammonium compounds which are insoluble in water and ethylene glycol and propylene glycol are soluble in combinations of water and alkylyene glycol." The critical difference between the instant invention and Smith is that the instant invention employs a hydroxyethyl substituent –A-$(OA)_n$-OH having only one hydroxyl group and the Smith reference does not teach or disclose any such substituent having only one hydroxyl group. Smith et al. is directed to the discovery that a particular group of quaternary ammonium compounds which are separately insoluble in water and ethylene glycol and propylene glycol, are soluble in combinations of water and such alkylene glycols (See Column 4, Table II). An alkylene glycol of the Smith et al. Patent is of the formula

R—O—$(AO)_nH$, where R is **always** hydrogen

Applicant's invention employs a non-ionic solvent which as recited in claim 1 as amended is an alcohol or an ethoxylated alcohol with the general formula R-O-$(AO)_nH$, where R is alkyl or alkenyl group containing 8 to 22 carbon atoms, A is C_2H_4 or C_3H_6 and mixtures thereof, and n is a number from 0 to 20, nonylphenol or ethoxylated nonylphenol with the general formula C_9H_{19}-phenyl-O-$(AO)_nH$, where A and n are as defined above, and mixtures thereof. Thus, Applicant's solvent is structurally different from the solvent of the Smith et al. Patent, and no one skilled in the art would find any teaching or suggestion or motivation to structurally alter the solvent of Smith et al. to arrive at applicant's claimed invention without requiring the evaluation of thousands of chemical compounds. Applicant's claim 1 recites an oxalkylated fatty alcohol, not an alkylene glycol. Furthermore, Smith's disclosure of his surprising finding of the unique quaternary ammonium compound solubility property provided by the combination of water and the mono and dialkylene glycol would not provide any guidance to anyone skilled in the art that compounds having a different chemical structure might provide similar physical properties.

The Examiner has failed to make a prima facie case of obviousness. And no one skilled in the art would be motivated based solely on the disclosure of the highly hydrophilic alkylene glycols of Smith el al. to select Applicant's quaternary ammonium compound consisting essentially of quaternary ammonium compounds and the more hydrophobic non-ionic alcohols and alkoxylated fatty alcohols or alkylphenols as solvents in the instant invention. One skilled in the art, reading Smith et al. would be directed away from the hydrophobic non-ionic solvents of the instant invention. Prior art references must be read as a whole and consideration must be given where the reference diverges and teaches away from the claimed invention. Proceeding contrary to accepted wisdom is string evidence of non-obviousness. Therefore, the rejection of claim 1 under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (US 5,414,124) should be withdrawn for the reason that Smith et al. teaches away from the instant invention and no one skilled in the art would be motivated to select any of Applicant's non-ionic solvents from the disclosure of Smith et al.

The rejection of claims 2 - 6 under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (US 5,414,124) should be withdrawn for the reasons given in support of claim 1 from which they depend.

Claims 8-15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Guenter (US 4,675,180)(hereinafter referred to as Guenter). The rejection of claim 8 as amended under 35 U.S.C. 103(a) as being unpatentable over Guenter (US 4,675,180) should be withdrawn for the reason that Guenter teaches away from the instant invention. Guenter discloses a method for quaternizing tertiary ammonium compounds in an dilute aqueous solution in the presence of an acid with ethylene oxide. Guenter further discloses that the dilute solutions thus obtained can be used in hair cosmetics, either directly (as a 30% solution) or in a dilute form (See column 1, lines 38-40, and column 3, lines 59-60). Nowhere in Guenter is it taught or suggested to substitute any portion of the aqueous reaction medium with an oxalkylated fatty alcohol, for to do so would be antithetical to the disclosure of Guenter which requires reaction in an dilute aqueous medium to produce products in the form of 30% by weight aqueous solution (See Column 2 in the paragraph bridging column 2 and column 3, and examples 1(column 3, line 60), 2(column 4, line 47), and 3(column 5, line 10)). Guenter further discloses that these 30% weight solutions can be further diluted to a concentration of 0.1 to 1% by weight by the addition of water or water and alcohol. Applicant's invention is directed to the production of quaternary ammonium compounds in a concentrated form with less than 20 % weight water. Applicant has exemplified the production of quaternary ammonium compounds in a two-step reaction sequence which employs a oxalkylated alcohol solvent whereby the product contains less than 20 weight percent water. Nowhere in Guenter is any method taught or suggested which would result in the production of a concentrate comprising a quaternary ammonium compound in less than a 30% weight percent solution in water. The examiner is asked to indicate where in Guenter that anyone skilled in the art would find any guidance or motivation to substitute an oxalkylated fatty alcohol, which is clearly structurally different from water, for any portion of the water solvent of Guenter to obtain a quaternary ammonium concentrate having less than 30 % by weight

quaternary ammonium compound, and in particular to provide a quaternary ammonium compound concentrate having a water content of less than 20 % by weight. Applicant has not merely substituted one material in a composition for another material, Applicant has discovered that using a different reaction solvent medium for the reaction provides a concentrated product having less than 20 % by weight of water, whereas all of the processes of the prior art (exemplified by Guenter) result in dilute solutions having at least 30% water. Applicant has not simply replaced one material in a composition with another as part of the formulation of that compound, but actually modified the medium in which the reaction is conducted. No one skilled in the art would have any guidance or any reasonable expectation of success for reducing the water content of the quaternary ammonium product by varying any of the process conditions disclosed in the Guenter Patent. Only by changing the medium of the reaction by the substitution of the oxalkylated fatty acid for water as a solvent, can applicant's process for producing the concentrate be achieved. Prior art references must be read as a whole and consideration must be given where the reference diverges and teaches away from the claimed invention. Proceeding contrary to accepted wisdom is string evidence of non-obviousness. Therefore the rejection of claim 8 as amended under 35 U.S.C. 103(a) as being unpatentable over Guenter (US 4,675,180) should be withdrawn for the reason that Guenter teaches away from the instant invention, and no one skilled in the art would find any rational or motivation with any expectation of success from Guenter for using Applicant's oxaklylated fatty alcohol solvent in the process of preparing Applicant's quaternary ammonium compound concentrate. The rejection of claims 9-15 under 35 U.S.C. 103(a) as being unpatentable over Guenter (US 4,675,180) should be withdrawn for the reasons given in support of claim 8 from which they depend.

It is respectfully submitted that, in view of the above remarks, the objections and rejections under 35 U.S.C. §103 should be withdrawn and that this application is in a condition for an allowance of all pending claims. Accordingly, favorable reconsideration and an allowance of all pending claims are courteously solicited.

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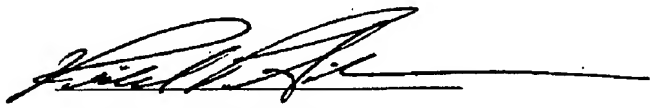
Art Unit 1621
Response to Office Action of 6/27/2007

An early and favorable action is courteously solicited.

Respectfully submitted,



Richard P. Silverman
Registration No. 36,277
Agent for Applicants

(CUSTOMER NUMBER 25,255)

CLARIANT CORPORATION
INDUSTRIAL PROPERTY DEPARTMENT
4000 Monroe Road
Charlotte, NC 28205
Telephone: (704) 331-7156
Facsimile: (704) 331-7707